

Title (en)

Method of manufacturing molecular plasmonic nanostructures

Title (de)

Verfahren zur Herstellung von molekular plasmonischen Nanostrukturen

Title (fr)

Procédé de fabrication de nanostructures plasmoniques moléculaires

Publication

EP 2100849 A1 20090916 (EN)

Application

EP 08152673 A 20080313

Priority

EP 08152673 A 20080313

Abstract (en)

The present invention relates to a method of manufacturing molecular plasmonic nanostructures, which comprises the steps of: a) forming two distinct layers of an upper conductor and a lower conductor; b) fabrication of a plasmonic nanostructure onto a the upper conductor layer by a charged particle beam technique; c) etching the surface through the layer of upper conductor by a charged particle beam technique, exposing an area of the lower conductor layer; and d) functionalising the exposed area with a desired molecular unit. The invention relates also to the molecular plasmonic nanostructures obtainable by the method, as well as to their use in the field of nanotechnology.

IPC 8 full level

B81C 1/00 (2006.01); **G01N 21/65** (2006.01)

CPC (source: EP)

B81C 1/00206 (2013.01)

Citation (applicant)

EP 1353179 A1 20031015 - JAPAN SCIENCE & TECH CORP [JP]

Citation (search report)

- [A] US 2006279738 A1 20061214 - OGAWA MIKI [JP], et al
- [A] SPADAVECCHIA ET AL: "Surface plamon resonance imaging of DNA based biosensors for potential applications in food analysis", BIOSENSORS & BIOELECTRONICS, ELSEVIER SCIENCE PUBLISHERS, BARKING, GB, vol. 21, no. 6, 15 December 2005 (2005-12-15), pages 894 - 900, XP005135313, ISSN: 0956-5663
- [A] BARBILLON ET AL: "Electron beam lithography designed chemical nanosensors based on localized surface plasmon resonance", SURFACE SCIENCE, NORTH-HOLLAND PUBLISHING CO, AMSTERDAM, NL, vol. 601, no. 21, 26 October 2007 (2007-10-26), pages 5057 - 5061, XP022315311, ISSN: 0039-6028
- [A] HOA X D ET AL: "Modelling and implementation of a novel SPR biointerface for time-effective detection of sepsis biomarkers", APPLICATION -SPECIFIC SYSTEMS, ARCHITECTURES AND PROCESSORS, 2007. ASA P. IEEE INTERNATIONAL CONF. ON, IEEE, PI, 1 September 2006 (2006-09-01), pages 30 - 33, XP031201982, ISBN: 978-1-4244-1026-2

Cited by

US2021080417A1; US12000791B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA MK RS

DOCDB simple family (publication)

EP 2100849 A1 20090916; EP 2100849 B1 20100922; AT E482171 T1 20101015; DE 602008002705 D1 20101104

DOCDB simple family (application)

EP 08152673 A 20080313; AT 08152673 T 20080313; DE 602008002705 T 20080313